

REMARKS

Reconsideration and allowance of the pending claims in the application are respectfully requested in view of the following remarks.

I. Status of the Claims:

Claims 1-31 are pending in the application.

Claim 31 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claims 24 and 31 stand rejected under 35 U.S.C. § 112, second paragraph as failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-31 stand rejected under 35 USC 101 as describing non-statutory subject matter.

II. Response to Rejections under 35 U.S.C. § 101

Applicants respond to the indicated Paragraphs of the subject Office Action, as follows:

Paragraphs 1-3:

The Examiner's comments are noted. No response to the comments is deemed necessary.

Paragraph 4:

Applicants respond to the Examiner's rebuttal arguments to Applicants' arguments, filed December 5, 2006, as follows:

A. The Examiner contends Applicants' specification at page 3, line 13 continuing to page 4, line 2 does not support the limitation "generating a computational task by a first server for a certain amount of intense computation in a specified period of time as a POW to accomplish a separate, useful and verifiable correct computation." The Examiner further

contends that applicants specification at page 2, line 14-17 does not support a “server” performing the computations.

The Examiner acknowledges Applicants have shown support for a first server, but argues the cited support in “only saying entity 1 verifies the response”, does not provide enough support for the terms “certain amount of intense computation”.

Applicants respond that the cited text describes entities performing a computational task and providing a Proof of Work (POW). A POW is recognized in the art as an amount of intense computation to exact a computation cost for a user to access a resource, e.g. email systems, security applications. Including the term POW in the limitation demonstrates support for the term “certain amount of intense computation”.

With regard to the applicants alleged lack of support for the term “server”, applicants note for the Examiner’s attention that within the the cited text at page 3, line 13 to page 4, line 2, a “server” is described at page 3, line 15 for performing the computation.

Lastly, the Examiner has not demonstrated a prima facie case of lack of enablement by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed, as required by MPEP 2163, III A(B) “Examination Guidelines for Written Description”.

B. The Examiner contends that the terms “certain amount” and “intense”, as defined in Applicants’ specification at page 5, line 12 continuing to page 6, line 4, do not provide any way of measuring a certain amount of intense computation. Also, Applicants have not provided any measure for the term “intensity”.

The text cited by applicant describes the hardness of a Proof of Work (POW) in terms of upper and lower boundaries of a POW. Applicants submit that a worker skilled in the computational art would recognize that the Definitions 1 and 2 (defined in applicants’ specification at page 6) describe boundaries establishing a computational measurement for a POW. When a computation is performed according to the boundaries a certain amount of computation will have been performed within a defined time interval for the POW to be used in a task, e.g. security applications, minting coins. The number of steps “w” in the computation performed within a defined time interval measures the computational intensity of the POW. The amount of computation is indicated as an average of 2^{53} hash operations within a time (t) = 21.

Summarizing, Applicants' specification at page 15, lines 6-18 describes the hardness or the amount of computation and the intensity of the computation for a viable minting setup. The cited text provides support for the limitation "generating a computational task by a first server for a certain amount of intense computation in a specified period of time as a POW to accomplish a separate, useful and verifiable correct computation." The Definitions 1 and 2 provide the measurement for the amount of work and the steps in the computation provide a measure of the intensity of the computation.

Clearly Applicants' specification supports the terms "amount of computation" and "intensity".

C. The Examiner contends that the text cited by Applicant at page 1, lines 13-16 describing applications including POWs does not support the term "useful" included in the limitation described in Paragraph A above.

Applicants respond that the claims describe a Proof of Work (POW) for distribution in computational tasks, e.g. minting operations or verifying computational task. A POW is described in the search engine Google as a well known mechanisms for establishing a computational cost to control emails and reduce spamming. The controlling of computational cost is a useful application of POWs.

Moreover, MPEP 2107 Examination Guidelines for Utility state "If the applicant has asserted that the claimed invention is useful for any particular practical purpose (i.e., it has a "specific and substantial utility") and the assertion would be considered credible by a person of ordinary skill in the art, do not impose a rejection based on lack of utility." We believe the applications cited in the specification would be credible to a worker skilled in the art and the term "useful" is supported in the specification. The Examiner's position with respect to the term "useful" is not in compliance with the MPEP 2107 Examination Guidelines for Utility.

D. The Examiner contends the applicant has not shown any tangible results in any of the independent claims.

Applicants respond that independent claim 1, 13, 24, 29, 30, and 31 describe tangible results, as follows:

1. Claim 1 describes a Proof of Work (POW) as a tangible result from a computational effort, and is distributed for use by others in computational tasks, e.g. security applications.

2. Claim 13 describes a POW as a tangible result used in an application restricting resource access, as described in applicants' specification at page 10, lines 3 – 20.

3. Claim 24 describes a POW as a tangible result from a computational effort wherein the POW is used to verify a computational task.

4. Claim 29 describes a POW as a tangible result for re-use in another task.

5. Claim 30 describes a POW as a tangible result from a computational task for use in a minting operation and re-using the POW in another task.

6. Claim 31 describes a POW as a tangible result for verifying a computational task and re-using the POW in another task.

Summarizing, Applicants have demonstrated in the above Paragraphs A-D that (a) POWs are computational mechanisms, not programs; (b) the POWs are distributable as software mechanisms, (c) the POWs are used in computational tasks, e.g. spamming control, minting coins, security applications, (d) the terms “certain amount”, “intense” are measured by the Definitions for hardness and feasible, and (e) the utility of the POWs is defined by their use in security applications, spamming control and minting coins for micro-payments in controlling resource access.

Applicants respectfully submit the basis for the Examiner's contention that the limitation “generating a computational task by a first server for a certain amount of intense computation in a specified time interval” has been overcome. The rejection of claims 1-31 under 35 U.S.C. § 112, first and second paragraphs, and 35 U.S.C. § 101 is without support and should be withdrawn.

Paragraph 5

Claim 31 is rejected under 35 USC 112, first paragraph as failing to comply with the written.

A. The Examiner contends that the claims contain subject matter not described in the written description.

The Examiner has not identified subject matter in claim 31 not defined in the written description. Applicants assume the Examiner has reference to the subject matter “certain amount of intense computation”. Applicants have addressed the rejection in Paragraphs 4 (A)

and (B) above, which demonstrate that the written description clearly supports the terms “amount of computation” and “intensity”.

B. The Examiner contends that the limitation “generating a computational task by a first server for a certain amount of intense computation in a specified period of time as a POW to accomplish a separate, useful and verifiable correct computation” is not supported in the specification. Again, the Examiner has not identified wherein the written description is lacking in disclosure. Applicants assume the Examiner has reference to the Examiner’s remarks addressed by applicants in Paragraphs 4 (A) and (B) above. In particular, Applicants have noted the failure of the Examiner to comply with the Description and Utility Requirements described in the MPEP sections 2107 and 2163.

The rejection of claim 31 under 35 U.S.C. § 112, first paragraph, based on failing to comply with the written description has been overcome by Applicants remarks in Paragraphs 4 (A) and (B) above.

Withdrawal of the rejection of claim 31 is requested.

Paragraph 6

Claims 24 and 31 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite in the phrases “certain amount”, “intense” and “useful”.

The Examiner provides no indication wherein the written description is absent in the description of the phrases, as required by MPEP 2107 and 2163. The Examiners’ grounds for rejection have been rebutted and overcome by applicants’ in (a) Paragraphs A and B above, and (b) identifying the Definitions 1 and 2 on page 6 as the basis of measurement for “certain amount” and “intensity”, and (c) describing the utility of POWs in various applications for security, email and resource access.

The rejection of claims 24 and 31 under 35 U.S.C. § 112, second paragraph, has been overcome for the reasons indicated above. Applicants request the withdrawal of the rejections of claims 24 and 31, and allowance thereof.

Paragraph 7:

Claims 1-31 have been rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

The Examiner contends that claims 1-31 describe "...nonfunctional descriptive material, i.e. abstract ideas, stored in a computer-readable medium, in a computer on an electromagnetic carrier signal does not make it statutory" citing *Diamond v Diehr* at 450 US at 185-86; *In re Sarkar* 588 F.2d 1330, and *In re Johnson* 589 F.2d 1070. Applicants are well aware that programs per se are not patentable subject as merely representing ideas. However, the US Supreme Court in *Diamond v. Diehr*, 450 U.S. 175 (1981)^[1], held that the execution of a process, controlled by running a computer program was patentable. This decision did not make a computer program, by itself, patentable, but the use of it controlled by a processor was patentable. Claims 1-31 describe the execution of a process using a POW, a computational effort (not a program) controlled by one or more processors. Applicants are not claiming the POW as a program, but a method of using a POW a computational effort controlled by one or more processors for use in various software applications.

Applicants submit that claims 1-31 are statutory within the Supreme Court decision of *Diamond v Diehr* in describing the execution of a process using a POW controlled by one or more processors.

CONCLUSION

Based on the foregoing remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of the claims under 35 USC 112 first and second paragraphs and 35 USC 101; allowance and passage to issue of the subject application.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4500, Order No. 3037-4196. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No 13-4500, Order No. 3037-4196. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

Respectfully submitted,
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Dated: May 23, 2007

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